Town of Darien

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Report to the Board of Selectmen

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Public Beach Water Sampling 2009
Results and Recommendations

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Darien Health Department
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BACKGROUND

One of the first tasks I was charged with when appointed Director of Health in September 2008 was to "…..find out what is happening with the water at Pear Tree Beach" since the beach had been closed due to elevated levels of bacteria several times during the Summer of 2008. The following report is an attempt to address that directive.

INTRODUCTION

Consistent marine beach water quality analysis is vital to protect the health of our community and its residents. With the presence of beach-goers in Darien increasing throughout the months of June, July, and August, it is important to routinely test the safety of the waters in which they swim. Since 2002, Darien beach water sampling and testing has been regularly performed and the data, with the exception of that from 2006, is available. During the summer of 2009, the data were organized to analyze the "health" of Darien beaches and factors contributing to day to day quality of the marine waters. Ultimately, the goal was to assess the existing "Darien Health Department Policy and Protocol for the Operation of the Town Beaches Bathing Area(s)" and revise it as necessary.

STUDY SITE

Water samples were collected from the public beaches on Long Island Sound by the Darien Health Department during the summer of 2009. Samples were gathered from the shore of Pear Tree Beach (Map 1), Weed Beach (Map 2), and Tokeneke Beach (Map 3). Additional samples were also collected from Gorham's Pond (Map 4), along Stony Brook (Map 5) and the Goodwives River (Maps 6a & b) which are the main tributaries to Gorham's Pond. Much appreciation is extended to Darien Harbormaster Robert Price who enabled us to get off-shore samples by boat from Scott's Cove, and other locations off Pear Tree Point, Weed Beach, and Long Neck Point (Map 7).

METHODS

On-shore marine water sampling was done biweekly between the dates of May 17 and May 28, 2009, once a week in June, biweekly again from July 1 to August 11, 2009 and then weekly until the beaches were closed September 7, 2009. Typically, the water samples were collected in 3 feet of water by submerging the open sampling bottle one foot below the water's surface while taking care not to touch the inside of the

sampling bottle or the cap. The bottle was then capped, labeled, and put in a cooler with ice packs. This method was repeated so there were two samples taken from Tokeneke (TK), three samples from Pear Tree (PT) Beach, and two samples from Weed Beach (WB).

The date, time of day, tide, water temperature, date of last precipitation, amount of last precipitation, and observations of conditions (bather load, presence of geese, wind, etc.) were recorded during each sampling session. High tide was defined as any point when the water reaches its highest and any time within one hour of that point. Low tide was defined as the water level at its lowest point and within one hour of that point. Flood tide and ebb tide was when the water level was rising and receding respectively.

The samples were then taken to the Stamford Health Department or the CT State Lab and analyzed using the membrane filtration (MF) technique within 24 hours of collection. Levels of enterococci (ENT) and fecal coliform (FC) were tested and recorded. Marine water tested with ENT levels exceeding 104 colonies/100mL for a single-sample is considered unsafe for swimmers by EPA and DPH standards. Closure may or may not be ordered by the Health Department but immediate re-sampling is done as soon as these results are known and the areas checked for any evidence of recent contamination. FC tests were performed to help gain a more complete view of water quality. Taking the geometric mean (GM) of ENT is the method used to evaluate the water quality over a long period of time. EPA and DPH guidance provide that five samples with a GM greater than 35 indicate potentially unsafe marine swimming water.

The initial sampling locations selected were the two town beaches, Pear Tree Point and Weed Beach as well as the private beach at Tokeneke. Ultimately the study area was expanded to include Gorham's Pond (GP), Goodwives River (GWR), Stony Brook (SB) and the off-shore locations mentioned above.

DISCUSSION

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Enterococci (ENT) and fecal coliform (FC) are two indicators used to show the safety of waters. ENT are a subset of total coliform bacteria. Twelve species that are pathogenic for humans have been identified and described. Levels of ENT less than 105 colonies/100mL in marine waters are considered by EPA to be safe levels for swimming. Higher levels results in the need for the health department to assess the quality of water quality impacts from "upstream" or watershed locations. Marine water levels of FC less than 400 colonies/100mL are considered safe (Noble *et al.,* 2003) but EPA and DPH policy only recognizes ENT as the indicator organism used in establishing closure policies. It has been shown that ENT survives longer in marine environments than FC, usually surviving for 2.4 days (Noble *et al.,* 2003). More importantly, high levels of ENT and FC seem to correlate with swimming-associated gastrointestinal diseases (Kinzelman *et al.,* 2003).

As previously mentioned, the EPA recommends a monthly geometric mean water-quality indicator concentration be no greater 35 colonies/100mL for ENT (Yoder *et al.,* 2008). Using this standard, we have found that the long-term water quality of the beaches in Darien has been very good. A five sample GM has only exceeded EPA limits on two separate occasions in different years in the period of time for which sampling results are available. *What is more difficult to assess, however, is the safety of the waters on a day to day basis*. This is because ENT levels can change drastically almost instantly (Boehm *et al.*). With this in mind, our objective was to explore factors that affect the ENT levels. On two separate test days during summer 2009, the levels of bacteria were well above the EPA standard for safe swimming waters of 104 colonies. Retesting conducted immediately upon notification of these adverse conditions found acceptable conditions with low bacteria counts and as a result, the bathing areas were not closed. Our investigation was therefore extended to include consideration of the impacts of tide changes as well as other possible pollution sources. In doing so, freshwater sources were explored.

The main freshwater input for PT Beach is Gorham's Pond (GP) located north of the beach. GP flows directly into the PT Beach waters. Samples were taken from three different spots on GP. All samples exceeded 1000 colonies/100mL of ENT and some were above 2000 which is well above what is considered safe for swimming. Additional samples were taken on different days and all test results exceeded 1000 colonies/100mL. GP receives water from Long Island Sound (LIS) when there is a flood tide and receives fresh water from the Goodwives River (GWR) and Stony Brook. The stream flow into the pond drains the entire downtown area of Darien as well as a significant portion of I-95 so it is a highly impacted water system. Furthermore, due to the tide control dam placed in between GP and PT water, the major source of water for the Pond is high tide since the two main feeder streams have been observed to have very low flow during dry times. Samples taken along the GWR also exceeded the EPA standard for safe swimming waters.

It should be noted that an unexpected circumstance occurred during the sampling program of Gorhams Pond. While high levels of bacteria were recovered from all sampling points during July, by the middle of August, they were very low and the laboratory detected measurable levels of chlorine. Bacteria levels remained low throughout September. Further investigation is needed to evaluate this situation and determine the source of the chlorine.

The houses surrounding Gorhams Pond all have septic systems. Many of these systems may be subject to a high water table and during times of consistent rainfall, the septic system effluent could drain into the GWR and GP which may be a source of bacteria levels (Pitt *et al.,* 1993). Another contributing factor could be sediment brought to the pond from upstream road runoff coming from the center of town and a large portion of I-95. Furthermore, we found that Stony Brook (SB), which also flows into GP, has levels that exceed EPA standards for bacteria albeit not as high as GP or GWR. SB is also surrounded by a mixture of houses with septic systems and sewer systems.

The next step in our study included determining whether the bacteria from GP were capable of reaching PT Beach. To evaluate whether GP water reaches PT Beach, the laboratory examined salinity data. PT1 and PT2 showed low levels of salinity (this is where we had high levels of bacteria) while PT3 showed high levels of salinity (this is where we had low levels of bacteria). Low salinity levels correlates to an input of freshwater. In this case, GP is the only freshwater source flowing into PT Beach. High salinity suggests an input of salt water from LIS. Therefore, it would appear that during low tides, the water from GP flows out into the PT Beach waterways and has the ability to spread bacteria from the Gorham Pond into the swimming areas.

Tides play an important role in the flow of freshwater and saltwater. According to Boehm *et al.,* extremely high and low tides initiate flushing of pollutants and present enhanced conditions for ENT persistence in marine water in California. The same study found that spring-ebb tides yielded the highest ENT concentrations and the greatest chance of exceeding the single-sample standard at the majority of the beaches in their study area (Boehm *et al*.). Although this study was performed in California, there is reason to believe that these same patterns are consistent with PT Beach. Data from this summer showed that when water was flowing into GP, the levels of bacteria in the pond were 2000 CFU/100mL for ENT. When water was flowing out of GP, the bacteria levels were 1000 CFU/100mL for ENT or below. However, it is evident from our data that tides alone do not necessarily affect ENT levels at the beaches. Instead, tides *and* other factors such as rainfall contribute to high levels of ENT. For instance, while high levels of bacteria in PT during low tide were found, a second test at low tide showed low levels of ENT. Samples taken at flood tide also showed opposing levels of ENT. However, rainfall amounts varied over these different sampling sessions. For a better understanding of the factors contributing to ENT levels, it is necessary to sample the waters at specific times after rainfall and after certain amounts of rainfall. With this data, the influence of rain, time, and tides can be more thoroughly determined. Ideally, tidal conditions and rainfall need to be included in models used to evaluate bacterial conditions in Darien marine waters. These models will aid in determining beach closure policy.

Currently, Darien protocol calls for “preemptive” beach closure if one inch or greater of rainfall measured for a 24-hour period occurs. However, during the 8-years of Darien beach testing, bacteria levels exceeded EPA standards only once after a rainfall event of greater than one inch. In fact, in 2008 a few days after 2.15 inches of rainfall, levels of ENT were nowhere near exceeding EPA standards. With this data in mind, once a more comprehensive sampling program is conducted before, during and after rainfall events, Darien may consider revising the current closure policy of closing the beaches after one inch of rain. Sampling conducted to this point has not been conducted around precipitation events.

Membrane filtration (MF) is the technique used to determine the number of ENT in marine waters. However, this technique requires an incubation period of 24-hours. Upon receiving the results, it is already too late to determine whether a beach closure is necessary or advised. That is why preemptive closures are vital to ensure the safety of swimmers. However, it is evident that preemptive closures are not always consistent with the safety of the water relative to water quality. As shown above, an inch of rainfall does not necessarily mean Darien should close its beaches. Our data show widely variable conditions on consecutive days. For a more accurate response by regulatory officials, it would seem that a new technique which enables an instantaneous count of bacteria is needed. Scientists are currently working on one that gives tests results back in two hours (Kinzelman *et al.,* 2003). This would help determine whether or not a beach should be closed and when it should reopen.

Although this may seem ideal, it is important to remember that levels of bacteria can change almost instantly (Boehm *et al.,*) and this has been demonstrated in the test results in Darien. With the water flow apparently responsible for fluctuating bacteria levels, it is difficult to determine the validity of water testing in general. Even when duplicate samples were taken at the exact same time, the test results sometimes are very different. This further demonstrates the inconsistency of the water quality and the testing methods.

Because of the uncertainty of preemptive closures and the stated deficiencies in testing, it is important for swimmers to be educated in measures to prevent illness, especially those under 10 years of age who are at a greater risk for gastrointestinal illness (Yoder *et al.,* 2008). The EPA suggests that swimmers towel off immediately after leaving the water and showering as soon as they return home. There are other obvious suggestions like not drinking the water or swimming with open wounds (Yoder *et al.,* 2008).

PAST STUDIES

The Goodwives Final Water Management Plan (WMP) of 2004 as performed by Fuss & O'Neil Engineers provided one of the most extensive case studies on the watershed areas flowing into Darien beach waters. In 2002, the CT DEP identified Darien Harbor as an "impaired body of water" (Goodwives Final WMP). Their plan to restore the Darien Harbor included limiting sediment and other pollutant loading to Gorham's Pond (GP). According to the WMP, GP experiences sedimentation and degraded water quality due to contributions from the Goodwives River (GWR), Stony Brook (SB), Cummings Brook, and its own local watershed area. Upper Pond, which is located directly north of GP, has lost its natural sediment-trapping ability meaning sediment, which plays host to bacteria, is transported directly to GP.

The Goodwives WMP suggests that some sources of water contamination are due to outdated septic systems. Approximately 80% of the town of Darien is served by sanitary sewers. Most of these were installed between 1938 and 1972 and many of these have been rehabilitated either by replacement or lining

to eliminate infiltration and inflow. Areas not served by town sanitary sewers utilize on-site septic systems. Many of the older septic systems were not intended to deal with high-demand, all-year residents. Unfortunately, most houses built South of I-95 on GWR and surrounding GP and SB, (as well as Scott's Cove which has recently been closed to shellfishing by the State) were built with septic systems. The elevation of these homes varies from zero to 6 meters above sea level. Therefore, it is possible that after a heavy rainfall, or during high tide, the septic systems on these properties could overflow, or become immersed in groundwater and drain into the GWR, GP, and SB. Other water control measures such as the installation of groundwater drains may have been installed over the years to keep these "overflows" from view and transport sewage effluent to a discharge point which cannot be seen. Also, low lying homes may also have their septic systems installed into ground water and be "flushed" out by high tides.

Whereas many healthy bodies of water feature vegetative buffers, GP does not. Vegetative buffers, such as sea-grasses, can reduce bacteria. Sometimes they can even act as ephemeral storage of bacteria. These buffers are especially useful in Holly Pond (HP) which experiences low levels of ENT. The border of HP is covered in thick sea-grasses. One study found that just a 0.1-meter vegetative buffer can significantly reduce the bacteria from runoff (Tate *et al.,* 2003). The Goodwives WMP suggested that Darien establish stream buffers with natural vegetation for lots adjacent to watercourses. There is evidence that this would help decontaminate runoff flowing into GWR, SB, and GP. Ultimately, it is believed that the introduction of vegetative buffers would reverse the bacteriological problem in these areas. However, as with any manipulation of nature, there can be unforeseen consequences.

Prior to 1990, the flood gates of GP were only opened two weeks per year. In the mid-1990s, the town began opening the tide gates more frequently and for longer periods of time. This may have resulted in some improvement in water quality, but caution should be taken when opening the gates. Under any circumstances, if it is necessary to open them during the summer, then it is vital to close PT Beach to swimmers.

Conclusions and Recommendations:

- Water sampling conducted off-shore seem to indicate that fluctuating water quality at the beaches are a result of land based activities, not from variable water quality associated with Long Island Sound.

- *Preemptive closure of beaches due to rainfall events may be the most effective means of protecting swimmers.* There is a storm drain outlet into the waters at Weed Beach which could contribute to elevated bacteria counts after a rainfall. Long term planning should incorporate relocating this drain away from the beach area. Until that time, closure should remain the policy after rainfall.

There have been a few instances where Pear Tree Beach has experienced exceptionally high levels of bacteria, but the data suggests that rainfall is not solely responsible for this hike. Furthermore considering the influence of GP, further research should be conducted before changing the beach closure standards for that beach. Other factors such as tidal "flushing" should be considered. However, under any circumstances, *Pear Tree Point Beach should be closed when the floodgates to Gorham's Pond are open.* (Public Works & Health Department)

- Signage at the beaches instructing bathers to towel off immediately after leaving the water and showering as soon as they return home is recommended as well as not drinking the water or swimming with open wounds. (Parks & Recreation)

- Current methods of water testing may be totally inadequate for assessing water safety; results are not obtained for at least 24 hours and responding to that data has been shown by subsequent testing to not be valid because water quality is so variable. The policy utilized in the Summer of 2008 was to close the beaches upon a single test result that exceeded the bacteriological limits (as discussed above). This is an ultra-conservative approach which may not be appropriate when reviewing the results of next day sampling conducted this year showing acceptable levels of bacteria.

- Using ENT testing as the sole means of assessing water quality and human health impacts may be inadequate. Currently, ENT is the only factor being tested, although the Darien Health Department has also routinely submitted samples to be tested for the presence of fecal coliform organisms. Additionally, ENT only determines the swimming safety for *humans*; it does not determine the health of plants or animals relying on these waters. We often take an anthropogenic view and neglect the "natural" environment. It should be noted that this is not a change that can be done locally since all testing is being done under EPA and State DPH guidelines.

- *Beach sampling is important only for determining long term trends*. This data is useful to determine the overall health of the beaches and to monitor any changes over time and whether significant events have occurred that no one knows about. Continuing sampling helps maintain consistent knowledge of our swimming areas. Continued collection of samples from Goodwives River, Gorham's Pond, and Stony Brook is advised since these are the major sources of freshwater into Gorham's Pond. Water sampling from major streams flowing into Weed Beach, Tokeneke and Scott's Cove areas would help generate knowledge of the water quality in Darien overall and help pinpoint any sources of pollution. (Health Department)

- Restoration of sediment control upstream of Gorham's Pond would improve conditions in the Pond. (Public Works?)

- Policies that encourage the restoration of sea grasses along the banks of Gorham's Pond should be implemented perhaps through informational and educational efforts directed toward residents. (Wetlands)

- Continued evaluation of the water quality of Gorhams Pond and the source(s) of chlorine that was detected is needed (Health & Police (?) Depts)

- Areas that have high bacteria levels should be studied more thoroughly. As discussed above, this summer we found that Gorham's Pond had elevated levels of bacteria. This water body is surrounded by houses served by septic systems many of which may have marginally suitable soil conditions for septic systems. It is understood that public sewers are proposed for the Gorham's Pond area – *the abandonment of substandard septic systems and connection to sewers could be the single most important measure the Town could take to improve water quality at Pear Tree Beach*. (Sewer Authority, Public Works, Health & Board of Selectmen)

- Attached please find the "Darien Health Department Policy and Protocol for Town Beaches." There have been no significant changes made to the "Protocol" at this time, but further evaluation of conditions affecting water quality at our beaches is clearly warranted. We hope to target next year's sampling program more specifically to tides and rainfall events to determine if further modifications to the "protocol" are warranted.

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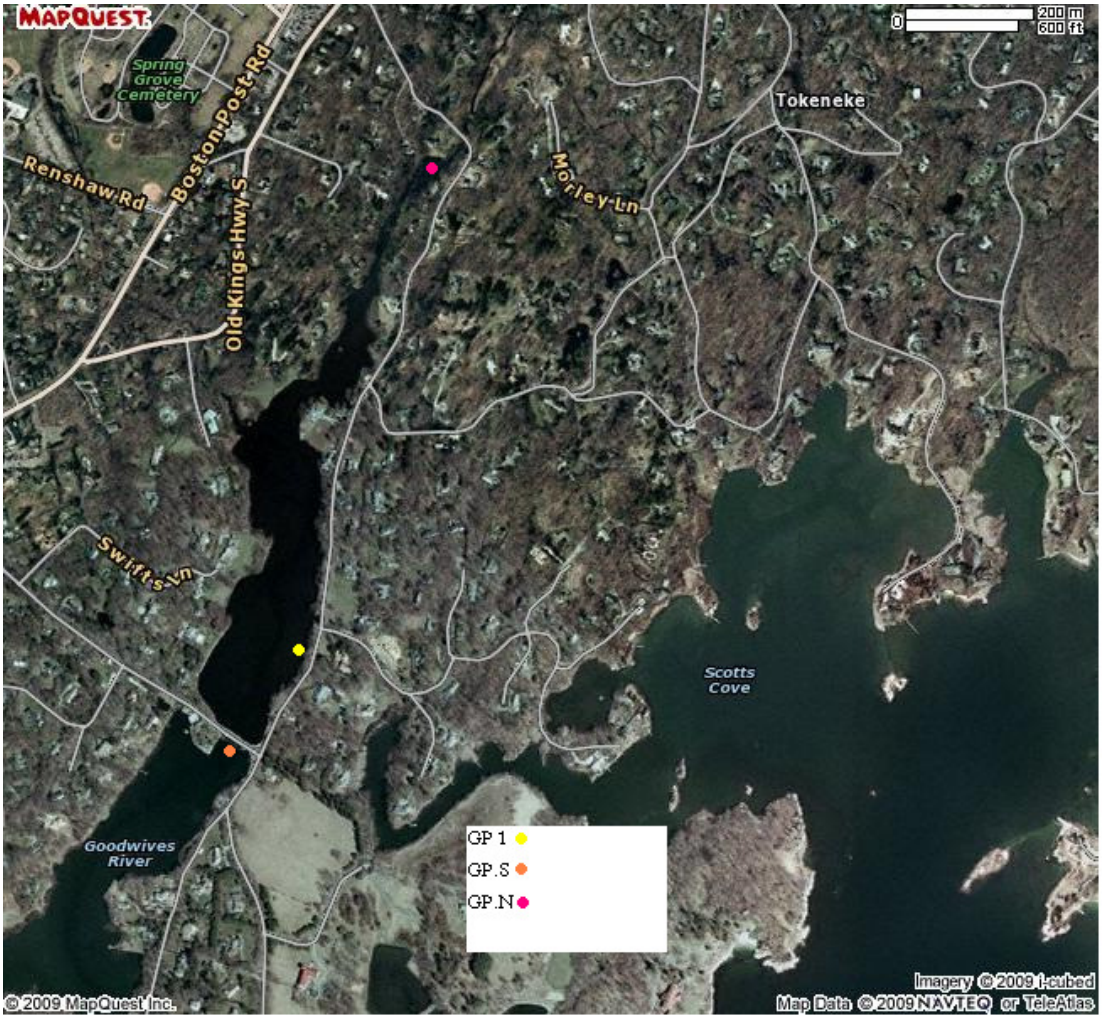
United States Environmental Protection Agency; Beach Act of 2000

MAPS & TABLES

Map 1 illustrates the three sampling points at Pear Tree Beach.

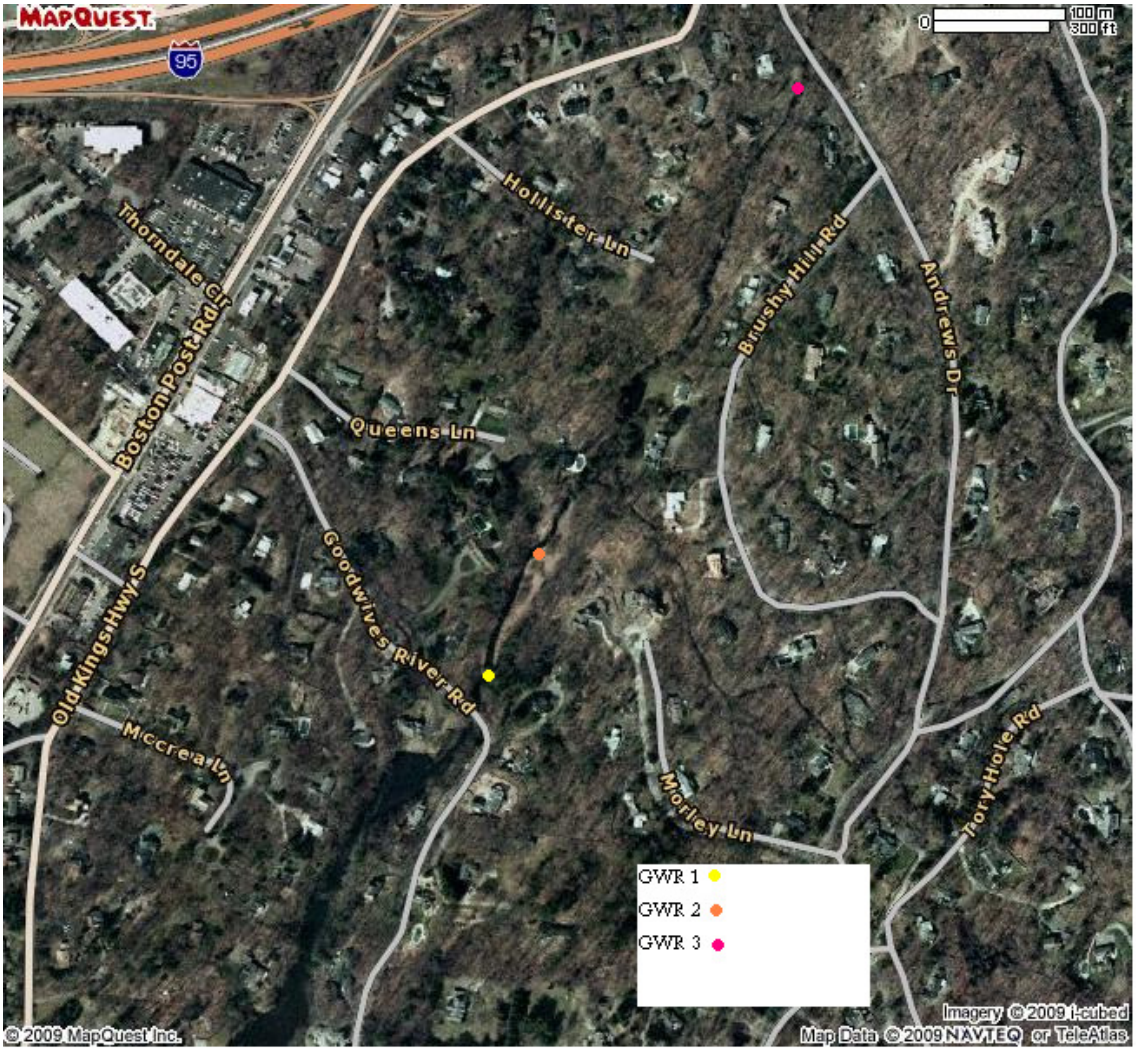
Map 2 illustrates the two sampling points at Weed Beach.

Map 3 illustrates the two sampling points at Tokeneke Beach



Map 4 Illustrates Gorham's Pond sampling points

Map 5 Illustrates Stony Brook Sampling points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Boston Post Rd
Brushy Hill Rd
Andrews Dr
Queens Ln
Goodwives River Rd
Old Kings Hwy S
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Morley Ln
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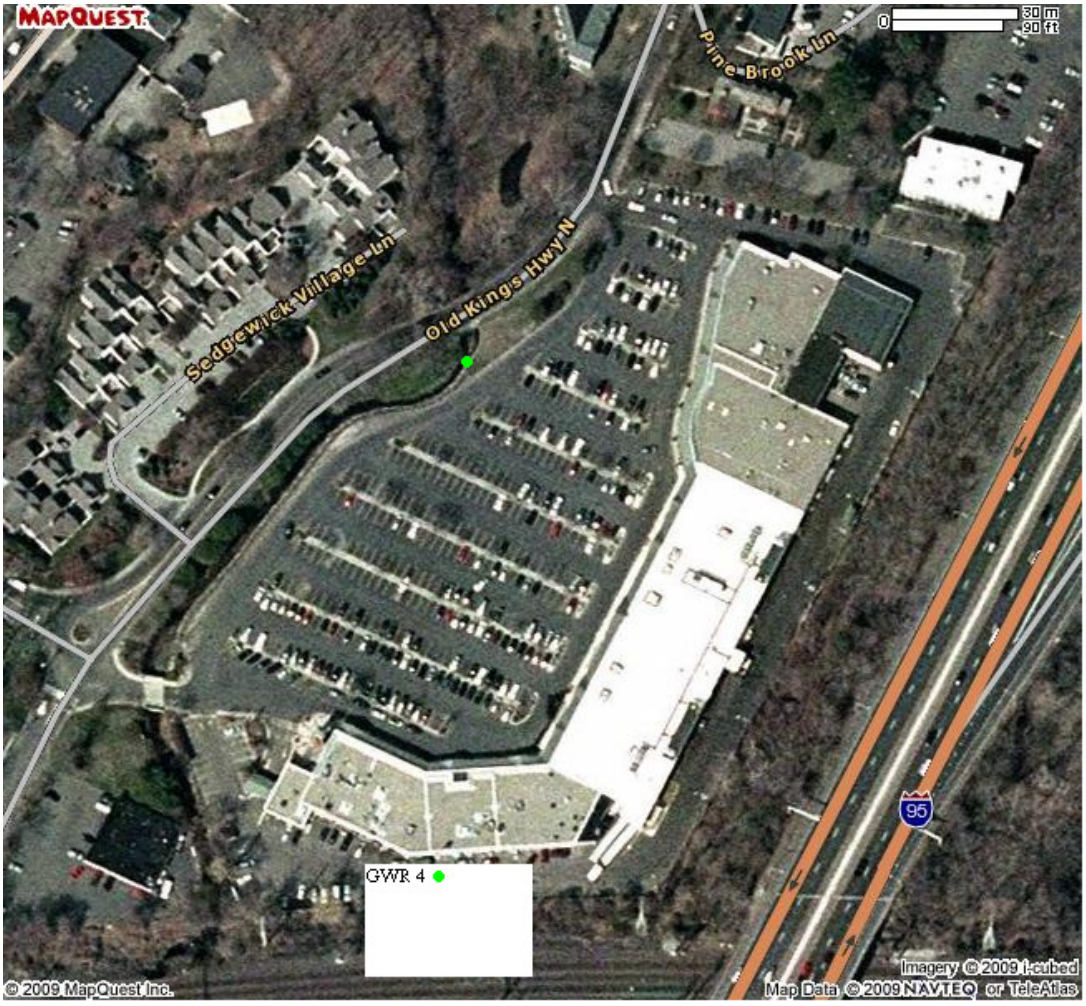

Maps 6a & b illustrate the Goodwives River sampling points

Table 1, Pear Tree Point BEACH (2009)

DATE (mm-dd-yyyy)	VALUE (cfu/100ml) **PT 1**	cfu/100 ml **PT2**	VALUE (cfu/100ml) **PT 3**
05-18-2009	5.0	5.0	n/a
05-20-2009	5.0	5.0	5.0
05-26-2009	35.0	5.0	5.0
05-28-2009	5.0	5.0	20.0
06-04-2009	15.0	20.0	n/a
06-17-2009	25.0	20.0	10.0
06-25-2009	15.0	25.0	105.0
06-30-2009	30.0	20.0	25.0
07-01-2009	35.0	100.0	40.0
07-07-2009	-	-	-
07-09-2009	10.0	10.0	70.0
07-14-2009	530.0	790.0	50.0
07-15-2009	35.0	40.0	20.0
07-21-2009	87.0	42.0	10.0
07-23-2009	5.0	5.0	5.0
07-27-2009	5.0	5.0	5.0
08-04-2009	25.0	-	-
08-10-2009	10.0	10.0	10.0
08-18-2009	5.0	-	-
08-26-2009	10.0	10.0	10.0

Table 2: Weed BEACH MONITORING DATA

DATE (mm-dd-yyyy)	VALUE (cfu/100ml) **WB 1**	VALUE (cfu/100ml) **WB 2**
05-18-2009	5.0	5.0
05-20-2009	5.0	5.0
05-26-2009	5.0	30.0
05-28-2009	5.0	5.0
06-04-2009	5.0	20.0
06-17-2009	5.0	5.0
06-25-2009	30.0	40.0
06-30-2009	30.0	155.0
07-01-2009	215.0	10
07-07-2009	10	-
07-09-2009	90	10.0
07-14-2009	10	20
07-15-2009	20	10
07-21-2009	10	15
07-23-2009	5.0	5.0
07-27-2009	5.0	40.0
08-10-2009	10.0	10.0
08-18-2009	5.0	5.0

Table 3 - Gorham's Pond

NAME	DATE (mm-dd-yyyy)	VALUE (cfu/100ml)
Gorhams' Pond (along GoodWivesRiver Rd)	7/16	1140
	7/21	2000
	7/23	700
	7/27	2000
	8/10	10
	* 8/18	80
	8/26	20
	9/2	30
	9/14	10

* 8/18 - chlorine detected in water sample

Town of Darien

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Darien Health Department Policy and Protocol for Town Beaches

The Darien Health Department is responsible for monitoring rainfall events, collecting bathing beach water samples, updating the 24-hour phone number (656-7323) with the area(s) status, and notifying the Darien Parks and Recreation Department and the CT DPH, when it becomes necessary to "close," or it is acceptable to "reopen," the Town bathing areas located at Pear Tree Point and Weed Beach.

The Darien Health Department will take immediate action (within one hour) to "close" the bathing area(s), including verbal notification to the Darien Parks and Recreation Department, when any of the following conditions occur:

♦ One inch or greater of rainfall occurs during a rainfall event as determined by the Darien Health Department. Rainfall shall be measured for a 24-hour period, but continuous rain for a period of greater than 24 hours will be accumulated and considered as one rain event as per the State of CT Department of Public Health.

♦ Bathing water bacterial sample results are determined by the Darien Health Department to be elevated above acceptable levels for swimming/bathing for three consecutive sampling days.

♦ A pollution event has occurred, including but not limited to releases of sewage, oil or other chemicals, or a toxic algal bloom, that by the determination of the Health Department after consultation with the CT State of Public Health may pose an unacceptable risk to public health.

The Darien Health Department will notify the Darien Parks and Recreation Department that it is acceptable to "open" the bathing area(s) when any of the following conditions occur:

♦ More than 24 hours has passed since the end of the most recent rainfall **event** of greater than or equal to one (1.0) inch. *No calls from the Health Department are required when reopening after a rainfall event only. This determination may be made independently by the Parks and Recreation Department.*

♦ Water sample results after subsequent retesting are within the acceptable criteria for reopening as assessed by the Health Department.

♦ Sufficient time has passed after a pollution event (not limited to sewage, oil, chemical or toxic phytoplankton) as determined by the Health Department together with the CT State of Public Health, that any risk to public health has been minimized.

Responsibilities of the Darien Health Department:

1. Monitor and record all rainfall event amounts.
2. Collect bathing water samples and assess results.
3. Verbally contact the Darien Parks and Recreation Department within one hour whenever the status of the bathing area(s) must be changed, and follow-up with written notice.
4. Update the 24-hour phone recording at 203-656-7323.
5. E-mail the Darien Library
6. Update the notification on the Town website.
7. Provide a written report to the State Department of Public Health by FAX.
8. Notify the media and nearby Health Departments as necessary for unusual events requiring closure.

Responsibilities of the Darien Parks and Recreation Department:

1. Close the bathing area(s) immediately, within one hour, upon notification from the Darien Health Department. Closure includes changing the flags/signs at the beaches and may include notification to the Lifeguards.
2. Reopen the bathing areas as soon as possible, automatically 24-hours after a rainfall event of >=1.0" ends, and/or when notified by the Health Department. Reopening includes changing the flags/signs at the beaches and may include notification to the lifeguards.
3. Waterfront Parks and Recreation Staff will call the Stamford Beach Hotline on weekends and holidays to determine if closures are necessary and enact closures if Stamford has closed their beaches during such times.

Stamford 24-hour beach hotline: (203) 977-5889 (xtn 3)
Norwalk 24-hour beach hotline: (203) 854-7919

Responsibilities of the Darien Department of Public Works:

1. Immediately, within one hour, verbally notify the Darien Health Department of the occurrence of a release of sewage, oil, or other chemicals and follow-up with a copy of the written report that is sent to the CTDEP as soon as possible.

Note: Pollution events occurring after 10:00 PM may be called in as soon as possible after 8:00 AM the next day.

The information will be assessed by the Health Department and a determination may be made to "close" the bathing area(s).

Darien Bathing Beach Closure Contact List:

Contact is to be made verbally, within one hour, then followed up by written notice.

Darien Health Department

David Knauf, MPH, MS, RS Director of Health
Cell : 203-246-8225 – primary contact number.
Office: 203-656-7324 Office FAX: 203-656-7486
Home: 860-989-4840
E-mail: dknauf@darienct.gov - To be used for sending follow-up written reports only. Initial notification must be verbal.

Elaine Kilbourn, Health Department Administrator
Office: 203-656-7320 - Main # Office FAX: 203-656-7486
Cell: 203-249-1620
Home: 203-323-7177
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Darien Parks and Recreation Department:

Jim Coghlan
Cell: 203-223-3781
Office: 203-656-7327
FAX: 203-656-7380
Home: 203-362-5687
E-mail: jcoghlan@darienct.gov

Sue Swiatek
Cell: 203-223-3780
Office: 203-656-7381
FAX: 203-656-7380
Home: 203-431-6146
E-mail: sswiatek@darienct.gov

Main office: 203-656-7325 Business hours.

Darien Department of Public Works:

Pat D'Arinzo, Jr.
Cell: 203-515-3002
Office: 203-656-7332 or 655-0133
Fax: 656-7485
Home: 203-322-0404
E-mail: pdarinzo@darienct.gov

Fred Micha
Cell: 203-943-0543
Office: 203-655-0133 or 655-7219
Fax: 656-7485
Home: 203-877-5283
E-mail: fmicha@darienct.gov

CT Department of Public Health: Phone: 860-509-7296 FAX: 860-509-7295

Local Contacts:

Darien Police Department:

Marine Police: 203-856-5019-cell Officer Chris Knight
Main number: 203-662-5300
FAX: 203-662-5381

Norwalk Health Department: Office hours: 203-854-7776, after 5:00PM: 203-856-3648
FAX: 203-854-7934
Lab phone: 203-854-7867 FAX: 203-854-7926
Public Works: 203-854-7791 WPCF: 203-854-3212 WPCF Fax: 203-854-9802
Norwalk 24-hour beach hotline: 203-854-7919

Stamford Health Department: Office: 203-977-4399 DOH, or 977-4362
FAX: 203-977-5882, or 977-5506, or 977-5963
Lab: 203-977-5843, or 977-4378, or 977-5842 contact is Joe Kunz
Public Works/WPCF: 203-977-5809 FAX: 203-977-5081
Stamford 24-hour beach hotline: 203-977-5889 (xtn 3)

Media: The media may be notified during unusual situations.
Darien Times: editor@darientimes.com
Darien News Review: jmordecai@bcnnew.com
Norwalk Hour: pr@thehour.com
Stamford Advocate: 203-964-2200
Darien Patch

Darien Health Department 24-hour beach/shellfish hotline: 203-656-7323